

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in this application.

**Listing of Claims:**

Claim 1 (Currently Amended):        A semiconductor device, comprising:  
a main conductor layer having an end that is electrically connected to an electrode pad;  
an insulating layer having an opening section on said main conductor layer which exposes  
a copper or copper-containing upper surface portion of the main conductor layer; and  
a protrudent electrode electrically connected to said main conductor layer via said  
opening section, said protrudent electrode being made of Sn or a metal having Sn as its main  
component,  
said semiconductor device further comprising:  
a metal layer completely covering an upper surface portion of the main conductor layer  
exposed by the opening section ~~covering a bottom surface~~, but not completely covering side  
surfaces[[.]] of the opening section, ~~on the main conductor layer~~ so that said metal layer is  
provided between said main conductor layer and said protrudent electrode, wherein  
said metal layer is formed only in the opening section and includes a nickel layer and a  
gold layer,  
a nickel-containing said nickel layer having a lower surface in contact with the copper or  
copper-containing upper-surface portion of the main conductor layer ~~is made of Ni or a metal~~  
~~having Ni as its main component, by electroless plating~~; and  
a gold or gold-containing said gold layer having a lower surface in contact with an upper  
surface of the nickel-containing layer and an upper surface in contact with a lower surface of the  
protruding electrode ~~is made of Au or a metal having Au as its main component~~.

Claims 2-4 (Canceled).

Claim 5 (Currently Amended): The semiconductor device as set forth in Claim 1, wherein said gold or gold-containing layer has a thickness ranging from 0.003  $\mu\text{m}$  to 1  $\mu\text{m}$ .

Claim 6 (Original): The semiconductor device as set forth in Claim 1, wherein said protrudent electrode is formed so that said protrudent electrode has a part, which protrudes from said opening section, of a size greater than an area of said opening section.

Claims 7-9 (Canceled).

Claim 10 (Previously Presented): The semiconductor device as set forth in Claim 1, further comprising:

a foundation metal layer made of Ti, Ti-W, Cr, or a metal having any of those elements as its main component, under said main conductor layer.

Claims 11-16 (Canceled).

Claim 17 (Currently Amended): A semiconductor device, comprising:  
a conductive wiring layer connected to an electrode pad formed on a semiconductor substrate;

an insulating layer formed on the wiring layer and having an opening therein which exposes a copper or copper-containing an upper surface portion of the wiring layer;

a metal layer completely covering the upper surface portion of the wiring layer exposed by the opening, but not completely covering side surfaces of the opening; and

a protruding electrode electrically connected to the wiring layer via the metal layer, the protruding electrode being made of Sn or a metal having Sn as its main component, wherein

the metal layer is formed only in the opening and comprises;

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**Serial No. 09/883,366**

**Response to Office Action dated January 25, 2006**

a nickel-containing layer having a lower surface in contact with the copper or copper-containing upper surface portion of the wiring layer, and

a gold or gold-containing layer having a lower surface in contact with an upper surface of the nickel-containing layer and an upper surface in contact with a lower surface of the protruding electrode

~~a barrier metal layer and a top layer, and  
the barrier metal layer is formed only in the opening.~~

Claim 18 (Previously Presented): The semiconductor device according to claim 17, wherein the conductive wiring layer comprises first and second metal layers.

Claim 19 (Previously Presented): The semiconductor device according to claim 18, wherein the first metal layer comprises a barrier metal layer and a metal adhesion layer.

Claim 20 (Canceled).

Claim 21 (Currently Amended): The semiconductor device according to claim 17, wherein the thickness of the gold or gold-containing ~~top~~ layer is between 0.003 micrometers and 1 micrometer.

Claim 22 (Previously Presented): The semiconductor device according to claim 17, wherein an upper portion of the protruding electrode is wider than the opening formed in the insulating layer.

Claim 23 (Previously Presented): The semiconductor device according to claim 17, wherein the wiring layer is connected to the electrode pad via an opening formed in another insulating layer.

Claim 24 (Previously Presented): The semiconductor device according to claim 23, wherein the other insulating layer comprises an inorganic layer and an organic layer.

Claim 25 (Currently Amended): A semiconductor device, comprising:  
a wiring layer connected to an electrode pad formed on a semiconductor substrate;  
an insulating layer formed on the wiring layer and having an opening therein which exposes a copper or copper-containing an upper surface portion of the wiring layer;  
a metal layer completely covering the upper surface portion of the wiring layer exposed by the opening, but not completely covering side surfaces of the opening; and  
a protruding electrode electrically connected to the wiring layer via the metal layer, the protruding electrode being made of Sn or a metal having Sn as its main component,  
wherein the wiring layer comprises a first, second and third metal layers,  
wherein the metal layer is formed only in the opening and comprises:  
a nickel-containing layer having a lower surface in contact with the copper or copper-containing upper surface portion of the wiring layer, and  
a gold or gold-containing layer having a lower surface in contact with an upper surface of the nickel-containing layer and an upper surface in contact with a lower surface of the protruding electrode  
~~a barrier metal layer and a top layer, and~~  
~~wherein the barrier metal layer is formed only in the opening.~~

Claims 26 and 27 (Canceled).

Claim 28 (Previously Presented): The semiconductor device according to claim 25, wherein the insulating layer comprises polyimide resin.

Claims 29-34 (Canceled).

Claim 35 (Currently Amended): A semiconductor device, comprising:

a conductive wiring layer connected to an electrode pad formed on a semiconductor substrate;

an insulating layer formed on the wiring layer and having an opening therein which exposes a copper or copper-containing ~~an~~ upper surface portion of the wiring layer;

a metal layer having lateral dimensions defined by the size of the opening, the metal layer completely covering the upper surface portion of the wiring layer exposed by the opening, but not completely covering side surfaces of the opening; and

a protruding electrode electrically connected to the wiring layer via the metal layer, the protruding electrode being made of Sn or a metal having Sn as its main component,

wherein the metal layer is formed only in the opening and comprises:

a nickel-containing layer having a lower surface in contact with the copper or copper-containing upper surface portion of the wiring layer, and

a gold or gold-containing layer having a lower surface in contact with an upper surface of the nickel-containing layer and an upper surface in contact with a lower surface of the protruding electrode

~~a barrier metal layer and a top layer.~~

Claims 36-38 (Canceled).